

SELF-CONTAINED AIR-CONDITIONED ENCLOSURE

Abstract: A Self-Contained Air-Conditioned Enclosure; comprises of an Enclosure (1), connected through plurality of openings (13,14) to air ducts (20,21) of an Air-conditioning Unit (17). The Enclosure has a Roof (5), and sidewalls assembled with plurality of Wall Sheets (8) interspaced with Spacer Strips (9) to enhance thermal resistance of the sidewalls. The bottom of the sidewall is inserted under the structure that forms the floor to create an isolated enclosure. The Air-conditioning Unit (17) supplies the Enclosure through the Supply Air Duct (21) and withdraws air through Exit Air Duct (20). Part of the withdrawn air is reconditioned and supplied to the enclosure; the other part is replaced by fresh air. Energy is conserved from the replaced air in Heat Transfer Duct (37) and transferred to fresh air in Fresh Air Chamber (36). Unit efficiency is improved by mixing the exhausted withdrawn air in the Compressor Chamber (31) and exhausted by the Exhaust Air Duct (28). Flow of fresh air is controlled through the Air Damper (39) and Control Knob (38).